

PSYCHE.

NORTH AMERICAN HENICOCEPHALIDAE.—PLATE I.

BY O. A. JOHANNSEN, ITHACA, N. Y.

ON the evening of July 5th while walking in my garden on Cornell Heights, Ithaca, N. Y., I noticed a swarm of small insects hovering in the air about 6 feet above the ground. From their manner of flight I supposed that they were Chironomids but was surprised to find that they were small Hemipterous insects belonging to the strange family Henicocephalidae. During the days which followed until the last week in August I never failed to find these insects in small swarms flying in the sunlight in the same locality and at about the same hour (i. e. from 5 P. M. until after sundown). Of their further habits I could learn nothing, nor did I find them at any other time of day. In looking over the literature but few references to North American species were found. In the Lethierry and Severin catalogue twelve species are recorded from the world, of which two are from the United States and one from St. Vincent Isl., West Indies. In *Biologia Centrali-Americana* Champion described five species from Central America. The two species from the United States, *H. formicina* and *H. culicis*, were described by Uhler in the Transactions of the Maryland Academy Science for 1892; the latter is redescribed by Ashmead in Proceedings of the Entomological Society of Washington in 1892 and quite recently recorded in the same periodical by Mr. F. Knab, from Mexico. As Uhler's descriptions are rather inaccessible to many American Entomologists I may be pardoned for giving here description and figures of *H. culicis* as well as the diagnosis of *H. formicina* and a table including also the Central American and West Indian forms. The variation which exists in the wing venation, the segmentation of the tarsus, the tarsal claws, etc., in the different species has given occasion for the erection of several genera. As hemipterists are by no means agreed as to the classification no attempt will here be made to subdivide the American forms into genera.

TABLE OF NORTH AMERICAN SPECIES.

(Modified from Champion.)

- a.* Discal cell of the elytra closed; posterior lobe of the head transverse; dull, pilose. (*Hymenocoris*).
- b.* Antenna much longer than the pronotum, basal joint stoutest, second joint longest, a little thicker than the third, third a little shorter; insect minutely pubescent; legs unicolored; anterior tarsi with two claws; ocelli large. (California) *formicina* Uhler.
- bb.* Not as above.
- c.* Anterior tarsi each with two claws.
- d.* Legs unicolored, ocelli very small; first and second antennal joints very stout, the others slender. (Guatemala, Panama) *concolor* Champion.
- dd.* Legs annulate; ocelli prominent; first and second antennal joints but little stouter than the others; pilosity of head and pronotum long. (Panama.) *annulipes* Champion.
- cc.* Anterior tarsi with a single claw.
- d.* Intermediate lobe of the pronotum broad, and as long as posterior lobe; ocelli very small; antennae elongate, three outer joints slender. Body thickly pilose. (Guatemala.) *pilosus* Champion.
- dd.* Intermediate lobe of the pronotum short, and much narrower than the posterior lobe; ocelli prominent.
- c.* Anterior and intermediate lobes entirely flavous. (St. Vincent Isl.) *flavicollis* Westw.
- ee.* Anterior and intermediate lobes not wholly flavous; antennae short, second joint shorter than the third. (Guatemala.) *emarginatus* Champion.
- aa.* Discal cell of elytra open, posterior lobe of the head subglobose, smooth, shiny; anterior tarsi with two long claws. (*Hymenodectes*)
- b.* Intermediate lobe of pronotum measured along lateral margin longer than posterior lobe. (Guatemala.) *angustatus* Champion.
- bb.* Intermediate lobe of pronotum measured along lateral margin not longer than posterior lobe. (United States and Mexico.) *culicis* Uhler.

Henicocephalus culicis Uhler.

1892. *Hymenodectes culicis* Uhler; Trans. Maryland Acad. Sc. 181.

1892. *Henicocephalus schwarzi* Ashmead; Proc. Ent. Soc. Wash. II, 329.

1908. *Henicocephalus culicis*. Knab; Proc. Ent. Soc. Wash. 7.

“Pale, smoky testaceous, tinged with piceous on the lobe of the head which holds the eyes, and on the tumid lobe behind this. Immature specimens have the front of head, pronotum, excepting the base, and scutellum yellow. Texture thin and flabby, the veins of the wing-covers coarse and dark colored. The last joint of the antennae infuscated. Rostrum pale piceous, the apical joint yellowish. Intermediate and posterior tibiae and margins of venter pale testaceous.”

“The suborbate posterior lobe of the head a little longer than the lobe carrying the eyes, constricted abruptly both before and behind, a little narrower than the width across the eyes. Posterior lobe of pronotum widely sinuate behind, exposing the base of the transversely convex, and at apex acuminate, short scutellum. Wing-covers narrow, membranous throughout.”

To the above description may be added the following: The antenna (fig. 5) has a minute intermediate joint between the first and second, second and third, and third and fourth long joints; the basal joint is much shorter than the others, the third joint is rather longer, the fourth slightly shorter than the second; the third is quite slender. All joints are sparsely haired. The beak (fig. 6) is four jointed, sparsely setose; apical joint is triangular in outline, third joint is about as long as the second and fourth taken together. The apex of the fore tibia (fig. 3) is provided with seven stout spines, and a comb of fine setae on the side nearest the body. The fore tarsus is one jointed, has two stout spines on the flexor surface and at its apex a pair of claws, the inner one of which is somewhat longer than the other. The middle and hind tibiae each have two spurs; the middle and hind tarsi are each two jointed, the basal joint being very short, claws subequal (figs. 2 and 4).

The venation of the fore wing (elytra) is shown in fig. 1, the short cell under the stigma is somewhat variable in shape, the curved vein which forms its posterior margin sometimes being more curved up at the apex. In one specimen, a male, this curvature is quite pronounced (fig. 7). The hind wing has three very indistinct longitudinal veins; the first and second separated by a cross vein near the middle of the wing. The sexes appear to be much alike. In the male the eyes are slightly larger, closer together ventrally; the abdomen is clavate, the second segment being narrower than the first, and the eighth segment is somewhat narrower in proportion

to its length. Length 4 mm. Ithaca, N. Y. One specimen was also found among leaves while sifting for spiders, by C. R. Crosby near Interlaken, N. Y.; another, possibly the same species, at Columbia, Mo., and now in the University of Missouri Collection.

Henicocephalus formicina Uhler.

1892. *Hymenocoris formicina* Uhler, Trans. Maryland Acad. Sc. 182.

"Body broader than in *H. culicis*. Ground color fusco-piceous, a little polished, minutely pubescent. Wing-covers smoke brown, the veins darker; wings paler, with the veins smoke brown. Scutellum tinged with rufo-piceous, moderately convex, polished. Tergum paler than the venter, flat, with the incisures of the segments pale testaceous, or whitish. Middle and posterior tibiae a little paler than the anterior ones. Length to tip of abdomen 5 mm.; width of base of pronotum $\frac{7}{8}$ mm. Los Angeles, California."

A specimen of this species was collected by Mr. J. C. Bradley, July, 1907, at Lemon Cove, Tulare Co., California. The second antennal joint is over three times as long as the first and half again as long as the third; the ocelli are large; the eyes contiguous below and the fore tarsi have two equal claws. In coloring this specimen is rather paler than those of Uhler.

EXPLANATION OF PLATE.

- Fig. 1. Left elytra. $\times 20$.
" 2. Dorsal aspect of female insect. $\times 20$.
" 3. Inner lateral aspect of fore tarsus and apex of tibia. $\times 100$.
" 4. Ventral aspect of female insect. $\times 20$.
" 5. Antenna. $\times 50$.
" 6. Dorsal aspect of proboscis. $\times 100$.
" 7. Apex of wing showing variation. $\times 20$.